

SEQUENCE LISTING

<110> Diamond, Don J.

<120> HCMV- REACTIVE T CELLS AND USES THEREFOR

<130> 1954-398

<140> US 10/238,607

<141> 2002-09-11

<150> US 09/692,170

<151> 2000-10-20

<150> US 09/534,639

<151> 2000-03-27

<150> US 09/075,257

<151> 1998-05-11

<150> US 09/021,298

<151> 1998-02-10

<150> US 08/950,064

<151> 1997-10-14

<150> US 08/747,488

<151> 1996-11-12

<160> 43

<170> PatentIn version 3.1

<210> 1

<211> 9

<212> PRT

<213> Human cytomegalovirus

<400> 1

Asn Leu Val Pro Met Val Ala Thr Val

1

5

<210> 2

<211> 9

<212> PRT

<213> Artificial sequence

<220>
<223> Variant human cytomegalovirus peptide epitope

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa = L, I, M, T or V

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa = V, A, C, I, L or T

<400> 2

Asn Xaa Val Pro Met Val Ala Thr Xaa
1 5

<210> 3
<211> 11
<212> PRT
<213> Human cytomegalovirus

<400> 3

Tyr Ser Glu His Pro Thr Phe Thr Ser Gln Tyr
1 5 10

<210> 4
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Varian human cytomegalovirus peptide epitope

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa = S, T or L

<400> 4

Tyr Xaa Glu His Pro Thr Phe Thr Ser Gln Tyr
1 5 10

<210> 5
<211> 11
<212> PRT
<213> Human cytomegalovirus

<400> 5

Phe Val Phe Pro Thr Lys Asp Val Ala Leu Arg
1 5 10

<210> 6
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Variant human cytomegalovirus peptide epitope

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa = V or T

<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> Xaa = L, R or K

<400> 6

Phe Xaa Phe Pro Thr Lys Asp Val Ala Leu Xaa
1 5 10

<210> 7
<211> 10
<212> PRT
<213> Human cytomegalovirus

<400> 7

Thr Pro Arg Val Thr Gly Gly Gly Ala Met
1 5 10

<210> 8
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> Variant human cytomegalovirus peptide epitope

<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> Xaa = L, F or M

<400> 8

Thr Pro Arg Val Thr Gly Gly Gly Ala Xaa
1 5 10

<210> 9
<211> 8
<212> PRT
<213> Human cytomegalovirus

<400> 9

Phe Pro Thr Lys Asp Val Ala Leu
1 5

<210> 10

<211> 11

<212> PRT

<213> Human cytomegalovirus

<400> 10

Arg Pro His Glu Arg Asn Gly Phe Thr Val Leu
1 5 10

<210> 11

<211> 12

<212> PRT

<213> Human cytomegalovirus

<400> 11

Ser Val Leu Gly Pro Ile Ser Gly His Val Leu Lys
1 5 10

<210> 12

<211> 13

<212> PRT

<213> Human cytomegalovirus

<400> 12

Pro Thr Phe Thr Ser Gln Tyr Arg Ile Gln Gly Lys Leu
1 5 10

<210> 13

<211> 10

<212> PRT

<213> Human cytomegalovirus

<400> 13

Glu Phe Phe Trp Asp Ala Asn Asp Ile Tyr
1 5 10

<210> 14

<211> 11

<212> PRT

<213> Human cytomegalovirus

<400> 14

Phe Thr Ser Gln Tyr Arg Ile Gln Gly Lys Leu
1 5 10

<210> 15
<211> 23
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa = cyclohexylalanine

<400> 15

Ala Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Asn Leu
1 5 10 15

Val Pro Met Val Ala Thr Val
20

<210> 16
<211> 23
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<220>
<221> MOD_RES
<222> (1)..(1)
<223> dextro

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa = cyclohexylalanine

<400> 16

Ala Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Asn Leu
1 5 10 15

Val Pro Met Val Ala Thr Val
20

<210> 17
<211> 22
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa = cyclohexylalanine

<400> 17

Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Asn Leu Val
1 5 10 15

Pro Met Val Ala Thr Val
20

<210> 18
<211> 22
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<220>
<221> MOD_RES
<222> (1)..(1)
<223> dextro

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa = cyclohexylalanine

<400> 18

Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Asn Leu Val
1 5 10 15

Pro Met Val Ala Thr Val
20

<210> 19
<211> 26
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<400> 19

Val Ser Thr Ile Val Pro Tyr Ile Gly Pro Ala Leu Asn Ile Ala Ala
1 5 10 15

Ala Asn Leu Val Pro Met Val Ala Thr Val
20 25

<210> 20
 <211> 22
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Synthetic construct for human cytomegalovirus vaccine

<220>
 <221> MISC_FEATURE
 <222> (3)..(3)
 <223> Xaa = cyclohexylalanine

<220>
 <221> MOD_RES
 <222> (22)..(22)
 <223> AMIDATION

<400> 20

Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Tyr Leu Val
 1 5 10 15

Pro Met Val Ala Thr Val
 20

<210> 21
 <211> 22
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Synthetic construct for human cytomegalovirus vaccine

<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> dextro

<220>
 <221> MISC_FEATURE
 <222> (3)..(3)
 <223> Xaa = cyclohexylalanine

<220>
 <221> MOD_RES
 <222> (22)..(22)
 <223> AMIDATION

<400> 21

Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Tyr Leu Val
 1 5 10 15

Pro Met Val Ala Thr Val
 20

<210> 22
<211> 22
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa = cyclohexylalanine

<220>
<221> MOD_RES
<222> (22)..(22)
<223> AMIDATION

<400> 22

Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Asn Leu Val
1 5 10 15

Pro Met Val Ala Thr Val
20

<210> 23
<211> 22
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa = cyclohexylalanine

<220>
<221> MOD_RES
<222> (22)..(22)
<223> AMIDATION

<400> 23

Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Tyr Leu Val
1 5 10 15

Pro Met Val Ala Ser Val
20

<210> 24
<211> 22
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa = cyclohexylalanine

<220>
<221> MOD_RES
<222> (22)..(22)
<223> AMIDATION

<400> 24

Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Asn Leu Leu
1 5 10 15

Pro Met Val Ala Ser Val
20

<210> 25
<211> 25
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa = cyclohexylalanine

<400> 25

Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Ser Val Leu
1 5 10 15

Gly Pro Ile Ser Gly His Val Leu Lys
20 25

<210> 26
<211> 10
<212> PRT
<213> Human cytomegalovirus

<400> 26

Ile Leu Ala Arg Asn Leu Val Pro Met Val
1 5 10

<210> 27
<211> 9
<212> PRT
<213> Human cytomegalovirus

<400> 27

Glu Leu Glu Gly Val Trp Gln Pro Ala
1 5

<210> 28
<211> 9
<212> PRT
<213> Human cytomegalovirus

<400> 28

Arg Ile Phe Ala Glu Leu Glu Gly Val
1 5

<210> 29
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> HTL epitope PADRE

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa = cyclohexylalanine

<400> 29

Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala
1 5 10

<210> 30
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<400> 30

Lys Ser Ser Asn Leu Val Pro Met Val Ala Thr Val
1 5 10

<210> 31
<211> 12
<212> PRT
<213> Artificial sequence

<220>
 <223> Synthetic construct for human cytomegalovirus vaccine
 <220>
 <221> LIPID
 <222> (1)..(1)
 <223> PALMITATE

<400> 31

Lys Ser Ser Asn Leu Val Pro Met Val Ala Thr Val
 1 5 10

<210> 32
 <211> 12
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Synthetic construct for human cytomegalovirus vaccine

<220>
 <221> LIPID
 <222> (1)..(1)
 <223> DIPALMITATE

<400> 32

Lys Ser Ser Asn Leu Val Pro Met Val Ala Thr Val
 1 5 10

<210> 33
 <211> 29
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Synthetic construct for human cytomegalovirus vaccine

<220>
 <221> LIPID
 <222> (1)..(1)
 <223> DIPALMITATE

<400> 33

Lys Ser Ser Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr
 1 5 10 15

Glu Ala Ala Ala Asn Leu Val Pro Met Val Ala Thr Val
 20 25

<210> 34
<211> 29
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<220>
<221> LIPID
<222> (1)..(1)
<223> TRIPALMITATE

<400> 34

Cys Ser Ser Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr
1 5 10 15

Glu Ala Ala Ala Asn Leu Val Pro Met Val Ala Thr Val
20 25

<210> 35
<211> 28
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<220>
<221> LIPID
<222> (1)..(1)
<223> DIPALMITATE

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa = F or cyclohexylalanine

<400> 35

Lys Ser Ser Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala
1 5 10 15

Gly Gly Gly Asn Leu Val Pro Met Val Ala Thr Val
20 25

<210> 36
<211> 28
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic construct for human cytomegalovirus vaccine

<220>
<221> LIPID
<222> (1)..(1)
<223> TRIPALMITATE

<220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> Xaa = F or cyclohexylalanine

<400> 36

Cys Ser Ser Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala
 1 5 10 15

Gly Gly Gly Asn Leu Val Pro Met Val Ala Thr Val
 20 25

<210> 37
 <211> 25
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Synthetic construct for human cytomegalovirus vaccine

<220>
 <221> LIPID
 <222> (1)..(1)
 <223> DIPALMITATE

<220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> Xaa = F or cyclohexylalanine

<400> 37

Lys Ser Ser Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala
 1 5 10 15

Asn Leu Val Pro Met Val Ala Thr Val
 20 25

<210> 38
 <211> 29
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Synthetic construct for human cytomegalovirus vaccine

<220>
 <221> LIPID
 <222> (1)..(1)
 <223> DIPALMITATE

<400> 38

Lys Ser Ser Ile Ser Gln Ala Val His Ala Ala His Ala Glu Ile Asn
1 5 10 15

Glu Ala Ala Ala Asn Leu Val Pro Met Val Ala Thr Val
20 25

<210> 39

<211> 9

<212> PRT

<213> Artificial sequence

<220>

<223> Variant human cytomegalovirus peptide epitope

<220>

<221> MOD_RES

<222> (9)..(9)

<223> AMIDATION

<400> 39

Asn Leu Val Pro Met Val Ala Thr Val
1 5

<210> 40

<211> 9

<212> PRT

<213> Artificial sequence

<220>

<223> Variant human cytomegalovirus peptide epitope

<220>

<221> MOD_RES

<222> (9)..(9)

<223> AMIDATION

<400> 40

Tyr Leu Val Pro Met Val Ala Ser Val
1 5

<210> 41

<211> 9

<212> PRT

<213> Artificial sequence

<220>

<223> Variant human cytomegalovirus peptide epitope

<220>

<221> MOD_RES

<222> (9)..(9)

<223> AMIDATION

<400> 41

Tyr Leu Val Pro Met Val Ala Thr Val
1 5

<210> 42

<211> 20

<212> DNA

<213> Artificial sequence

<220>

<223> Synthetic DNA adjuvant

<400> 42

tccatgacgt tcctgacgtt

<210> 43

<211> 20

<212> DNA

<213> Artificial sequence

<220>

<223> Synthetic DNA adjuvant

<400> 43

tccaggactt ctctcaggtt